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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,917	02/04/2004	Harald Schlag	8540G-000216	3490

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EXAMINER	
CHU, HELEN OK	
ART UNIT	**PAPER NUMBER**
1795	
MAIL DATE	**DELIVERY MODE**
11/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/771,917	SCHLAG, HARALD	
	Examiner	Art Unit	
	Helen O. Chu	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 June 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14 and 25-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14,25-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's amendments have been received on February 15, 2007. Claims 1 and 25 have been amended.

2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action.

Claim Rejections - 35 USC § 112

3. The rejection under 35 U.S.C. 112, second paragraph, on claim 25 is withdrawn because the Applicants have amended the claims.

Claim Rejections - 35 USC § 102/103

4. The rejection under 35 U.S.C. 102(b) as anticipated by or in alternative under 35 U.S.C. 103(a) as obvious over Schmid et al. on claims 1-14 and 25-38) is withdrawn because the Applicants amended the claims.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-14 and 25-38 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Schmid et al. (US Patent 6,495,278 B1).

7. In regard to claims1, 7, 13, 25, 31, the Schmid et al. reference discloses an electrically series connected (Column 4, Line 59) MEA fuel cell with a PEM Interposed between two electrode layers with electrocatalyst interface adjacent to the PEM layer (Column 1, Lines 32-34). Each electrode has a provision of a mesh or porous fluid flow layer (Applicants' diffusion layer and also part of the MEA described by the Schmid et al. reference) between separator plates with flow channels (Column 1, Lines 60-62; Figure 3a, Components 20 and 21) and the corresponding electrodes (Column 1, Lines 55-58). An inherent trait of a fuel cell is one electrode has to be a cathode and the other is an anode; the channels of the separator plate in the Schmid et al. reference provides the corresponding oxidant and fuel. The Schmid et al. reference discloses the MEA with the porous fluid flow layer (Column 1, Lines 55-57; Applicants diffusion layer) can be sealed on the perimeter of the separator plate (Column 1, lines 52-65) and around the perimeter of fluid manifold openings (Column 5, Lines 5-8). In Figure 5a, illustrates a fist series of lands disposed between and separating flow channels and a sealing layer (component 50) that inherently adheres the land portions of said plate to secure direct contact between the first diffusion media and the separator.

In regard to claims 2-4, 8-10, 26-28, 32-34, the Schmidt et al. reference discloses an adhesive that can be an epoxy, electrically conductive or electrically insulating (Column 5, Lines 37-39 and 53).

In regard to claims 5, 11, 29, 35, the Schmid et al. reference illustrates the MEA in contact with a series of lands on the separator plate (Figure 3a). These lands are provided on the anode and cathode side of the MEA.

In regard to claims 14 and 38, the Schmid et al. reference discloses cooling spaces in the form as grooves on the surfaces of the separator plates are for coolant streams.

It is noted that claims 6, 12, 30, 36, are product-by-process claims. "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F. 2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Since the fuel cell system of the Schmid et al. reference is equivalent to that of the Applicant's, Applicant's process is not given patentable weight in this claim.

Response to Arguments

8. Applicant's arguments filed June 13, 2007 have been fully considered but they are not persuasive.

Applicants' principal arguments are:

A) Schmid merely appears to disclose use of the adhesive for sealing an outer perimeter sealing region or bonding adjacent separator plates to one another. There is no teaching of the sealing layer being adhered to land portions of the plate including the flow channels.

B) Even if the present characterization of Schmid by the Examiner properly teaches the previously claimed land portions, there is no teaching of a fuel cell where the land portions are disposed between adjacent flow channels and have an adhesive securing the diffusion media thereto, as claimed.

In response to Applicants arguments, please consider the following:

A) Schmid does disclose the sealing layer being adhered to the land portions of the plate including flow channels. Specifically, Figure 5a illustrates seals around component 30 (the Examiner considers 30 a flow channel), please now refer to Figure 2 where 30 is located at the upper left hand center portion of the plate, the seals are placed in the perimeter of the flow channel 30 with grooves or flow channels surrounding 30. This is so 36a and 36b can serve for exhausting and supplying a first reactant stream along the grooves which also consist of land portions.

B) These arguments are mere assertions of which the Applicants did not provide any evidence to support the arguments. Figure 5a illustrates seals around component 30 (the Examiner considers 30 a flow channel), please now refer to Figure 2 where 30 is located at the upper left hand center portion of the plate, the seals are placed in the perimeter of the flow channel 30 with grooves or flow channels

surrounding 30. This is so 36a and 36b can serve for exhausting and supplying a first reactant stream along the grooves which also consist of land portions

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen O. Chu whose telephone number is (571) 272-5162. The examiner can normally be reached on Monday-Friday 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TRACY DOVE
PRIMARY EXAMINER
11/07